REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1-4, 7-10 and 15-20 remain in the application. Claims 1-4, 7-10 and 15-16 are subject to examination and claims 17-20 have been withdrawn from examination. Claims 1 and 2 have been amended. No claims have been added or canceled herein.

I. THE REJECTION UNDER 35 USC § 112

In "Claim Rejections – 35 USC § 112," item 2 on page 2 of the above-identified Office Action, the claims 1 – 4, 7 – 10, 15 and 16 have been rejected as being indefinite under 35 U.S.C. § 112, second paragraph.

More specifically, the Examiner states that the phrase "for enabling overflow of vapor in the condensing chamber" is indefinite and can have two meanings. The disclosure of the instant application makes it clear that the Examiner's interpretation a) is the correct one and, although it is believed that the phrase was definite in its previous wording, claims 1 and 2 have been amended to clarify the phrase.

Support for this change may be found, for example, in the sentence bridging pages 13 and 14 of the Specification of the instant application, which makes it clear that steam flows through the condensing pipe 14 into the condensing chamber 4.

It is accordingly believed that the claims meet the requirements of 35 U.S.C. § 112, second paragraph. The above-noted change to the claims is provided solely for clarification or cosmetic reasons. The change is neither provided for overcoming the prior art nor does it narrow the scope of the claim for any reason related to the statutory requirements for a patent.

II. THE REJECTION OF THE CLAIMS

In "Claim Rejections – 35 USC § 103," item 3 on pages 3-4 of the Office Action, claims 1 – 4, 7 – 10, 15 and 16 have been rejected as being obvious over the Brettschuh et al. publication (hereinafter Brettschuh) in view of U.S. Patent No. 3,115,450 to Schanz under 35 U.S.C. § 103(a).

As will be explained below, it is believed that the claims were patentable over the cited art in their previous form and, therefore, the claims have not been amended to overcome the references.

III. THE INVENTION OF THE INSTANT APPLICATION

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful. Claim 1 calls for, *inter alia*, a containment vessel of a nuclear power plant, comprising:

> an interior space;
>
> a condensing chamber disposed in said interior space, said condensing chamber being filled to a filling level with a cooling liquid;
>
> a pressure chamber disposed in said interior space, said pressure chamber having a top region;

a condenser disposed in said interior space;

a condensing pipe leading into said condensing chamber for enabling overflow of vapor into said condensing chamber from outside said condensing chamber; and

a drain pipe for noncondensible gases, said drain pipe disposed in said interior space and fluidically connecting said top region of said pressure chamber to said condensing chamber, said drain pipe defining a direct connection to said condensing chamber, and said drain pipe not connected to said condenser, said drain pipe having an upper end disposed at a level above said condenser and a bottom end immersed into said cooling liquid;

said condenser and said upper end of said drain pipe being disposed in said pressure chamber, and said upper end of said drain pipe being disposed to permit the noncondensible gases to be led off from atmosphere surrounding said condenser and thermally interacting with said condenser.

Independent claim 2 contains similar language.

Applicant would like to emphasize once more that an important aspect of the nuclear power plant containment vessel in accordance with the invention is the existence of two types of flow connections between the pressure chamber 6 and the condensing chamber 4, which clearly differ functionally and structurally.

On one hand, the drain pipe 22 is provided which is recited in the claims and represents the central novelty over the state of the art. With regard to its configuration and dimensioning, this drain pipe 22 is constructed in such a way that, in case of a reactor accident, noncondensible gases released in the interior space of the containment 1 (that is in the pressure chamber 6), and collecting in the immediate vicinity of a building condenser 16 can be transferred at relatively low pressures in the interior of the containment 1 immediately from there directly into

the condensing chamber 4, where they are finally closed in. As a result, the surroundings of the building condenser 16 are specifically kept free from such noncondensible gases.

On the other hand, a conventional condensing pipe 14 is also recited in the claims. During the further course of an accident, large portions of released steam, above all, flow through this pipe 14 from a central area of the pressure chamber 6 into the condensing chamber 4 in order to condensate there (in this case, noncondesible portions are naturally carried along to a certain extent). These objectives and the structure used therefor are all described in detail in the instant application and are recited in the claims.

IV. THE PRIOR ART CONTIANS NO DRAIN PIPE

The Examiner correctly asserts that the Brettschuh system contains all of limitations of the claims of the instant application, except for those directed to the drain pipe. However, Applicant cannot understand the allegation that a person of skill in the art could acquire the "missing" limitation of the drain pipe from Schanz, and furthermore feel motivated to integrate the same into the system of Brettschuh.

In Fig. 7, relied upon by the Examiner in the rejection, and the appertaining description, Schanz himself only discloses a single type of overflow pipe between the pressure chamber (dry well 154) and the condensing chamber (outer chamber 162), which specifically is the vent tubes 180.

As described in column 7, lines 53-69 of Schanz, these vent tubes 180 are constructed to transfer large portions of released steam into the pool 164 in the outer chamber 162 in case of a serious reactor accident (worst credible accident), in order to condense them there in the pool 164 (in that case as well, noncondensible gases are naturally carried along to a certain extent). The construction of the Schanz system therefore corresponds precisely to the construction of the condensing pipes provided in accordance with Brettschuh and the present invention, except for the drain pipe.

In other words, with regard to their dimensioning and their technical function, the vent tubes 180 in the disclosure according to Schanz must be compared with the condensing pipe 14 of the present the invention, however **not** with the drain pipe 22! A person of skill in the art, therefore, merely recognizes technical elements in Schanz, which are already present in Brettschuh anyway, namely the condensing pipes. For this reason alone, a person of skill in the art has no motivation to modify the nuclear power plant containment vessel disclosed in Brettschuh in any way.

V. THE PRIOR ART DOES NOT HAVE AN UPPER END OF A DRAIN PIPE ABOVE A CONDENSER

Even if one were to erroneously compare individual vent pipes 180 with the drain pipe 22 provided in accordance with the present invention, one could not derive any indication from Schanz to spatially correlate the upper orifice region of such a pipe with the mounting position of a building condenser, as specified, for example, in the last paragraph of pending claims 1 and 2 of the instant application. In Schanz,

there is no such condenser at all within the dry well 154 and Shanz does not contemplate such a condenser.

VI. THE CRITICALITY AND ADVANTAGES OF THE RELATIVE LOCATION OF THE UPPER END OF THE DRAIN PIPE AND THE CONDENSER

In the third paragraph on page 4 of the Office Action, the Examiner has stated that "applicant has not identified any specific advantage of the claimed location of the upper level of the drain pipe and therefore said location is a matter of design choice." However, the Examiner's attention is respectfully directed to the first paragraph on page 16 of the Specification of the instant application, which states:

> In the course of an accident, noncondensible gases, in particular hydrogen, will possibly be released, and these noncondensible gases accumulate in the top region of the containment vessel 1, i.e. in the top region of the pressure chamber 6. The noncondensible gases which collect in the top region of the pressure chamber 6 lead to an increase in the pressure in the containment vessel 1. Due to the configuration of the drain pipe 22 and the increased pressure in the region of the top end 24, the mixture of steam and noncondensible gases there flows off through the drain pipe 22 from the top region of the pressure chamber 6 into the condensing chamber 4. The entrained steam is condensed in the condensing chamber 4. Therefore, by virtue of the drain pipe 22, an accumulation of noncondensible gases, for which the entire gas space in the condensing chamber 4 is available, is avoided in the region around the condenser 16.

It is thus seen that it is the combination of the condenser 16 and the upper end 24 of the drain pipe 22 which reduce pressure in the upper portion of the pressure chamber 6 to avoid a catastrophe. These are the specific advantages mentioned by the Examiner and they have been recited in the instant application since its filing date over 8 years ago. Even the last paragraph of claims 1 and 2 themselves state that the gases are led off from the surroundings of the condenser.

VII. SUMMARY

In summary, regarding the drain pipe of the claims, the argumentation set forth in the Office Action appears to be based on ex post facto wisdom derived from the teaching of the instant application, wherein the "missing" elements of one reference are randomly compiled from another reference in the state of the art without any recognition that none of the references provide an element functioning like the drain pipe 22 recited in claims 1 and 2 of the instant application.

Regarding the relative location of the condenser and the upper end of the drain pipe, the Examiner has all but acknowledged that no such configuration is found in the prior art, since he attacks the limitation as being a design choice rather than applying prior art showing the limitation. However, as stated above, the relative location of the condenser and the upper end of the drain pipe as claimed provides a critical advantage by making the condenser more effective by reducing pressure.

Clearly, neither Brettschuh nor Schanz nor a combination thereof show:

> a drain pipe for noncondensible gases fluidically connecting a top region of a pressure chamber to a condensing chamber, **besides** the presence of a condensing pipe leading into the condensing chamber for enabling overflow of vapor into the condensing chamber, and
>
> the drain pipe having an upper end disposed at a level above a condenser and a bottom end immersed into cooling liquid,

as recited in claims 1 and 2 of the instant application.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 1 and 2.

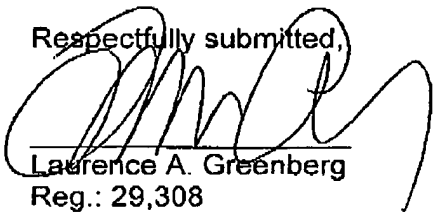
Claims 1 and 2 are, therefore, believed to be patentable over the art. The dependent claims are believed to be patentable as well because they all are ultimately dependent on claims 1 or 2.

In view of the foregoing, reconsideration and allowance of claims 1-4, 7-10 and 15-16 as well as rejoinder and allowance e of claims 17-20, are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable language can be worked out.

Please charge any fees that might be due with respect to Sections 1.16 and 1.17 to Deposit Account Number 12-1099 of Lerner Greenberg Stemer LLP.

Respectfully submitted,



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October 3, 2008

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